

New Zealand Society of Animal Production online archive

This paper is from the New Zealand Society for Animal Production online archive. NZSAP holds a regular annual conference in June or July each year for the presentation of technical and applied topics in animal production. NZSAP plays an important role as a forum fostering research in all areas of animal production including production systems, nutrition, meat science, animal welfare, wool science, animal breeding and genetics.

An invitation is extended to all those involved in the field of animal production to apply for membership of the New Zealand Society of Animal Production at our website www.nzsap.org.nz

[View All Proceedings](#)

[Next Conference](#)

[Join NZSAP](#)

The New Zealand Society of Animal Production in publishing the conference proceedings is engaged in disseminating information, not rendering professional advice or services. The views expressed herein do not necessarily represent the views of the New Zealand Society of Animal Production and the New Zealand Society of Animal Production expressly disclaims any form of liability with respect to anything done or omitted to be done in reliance upon the contents of these proceedings.

This work is licensed under a [Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License](http://creativecommons.org/licenses/by-nc-nd/4.0/).



You are free to:

Share— copy and redistribute the material in any medium or format

Under the following terms:

Attribution — You must give [appropriate credit](#), provide a link to the license, and [indicate if changes were made](#). You may do so in any reasonable manner, but not in any way that suggests the licensor endorses you or your use.

NonCommercial — You may not use the material for [commercial purposes](#).

NoDerivatives — If you [remix, transform, or build upon](#) the material, you may not distribute the modified material.

<http://creativecommons.org.nz/licences/licences-explained/>

SELENIUM AND ANIMAL HEALTH

W. J. HARTLEY*

CONTROLLED TRIALS carried out in the 1958/59 and 1959/60 seasons have shown that there are several disease entities of sheep in New Zealand that are responsive to minute amount of selenium.

WHITE MUSCLE DISEASE IN LAMBS

This condition is seen in two forms—the congenital, where the lamb is affected at birth, and the delayed, which does not usually become apparent until after docking. The former is prevented by oral dosing of the ewe with selenium during pregnancy and the delayed form by similar medication to the lamb at docking.

UNTHRIFTINESS IN LAMBS

Initial observations indicate that much of the pre- and post-weaning unthriftiness experienced in the southern half of the North Island and in the South Island is controlled by oral or subcutaneous administration of selenium. Some of this unthriftiness occurs in areas where white muscle disease is prevalent; much, however, occurs where white muscle disease has not been observed. In some areas, particularly on the pumice and sandy soils, heavy mortalities in unthrifty lambs have been dramatically halted by selenium therapy.

EMPTY EWES PROBLEM

In some white muscle disease areas, particularly in seasons where there is also an ill-thrift problem in lambs, many farms may experience very low lambing percentages. This is due, in the main, to the failure of ewes to conceive. The barren ewe problem can be greatly reduced on these properties by dosing the ewes with selenium prior to mating and throughout pregnancy.

WOOL PRODUCTION

On all properties where selenium gave an improvement in lamb thrift there was a significant increase in wool quantity and quality. On some properties there was also a substantial increase in fleece weight of ewes treated with selenium during pregnancy. Overall there was an average increase of 0.75 lb of greasy wool per sheep treated with selenium as compared with the controls.

*Wallaceville Animal Research Station, Private Bag, Wellington.

DISCUSSION

Q.: *What is the toxic level of selenium to sheep and how much occurs in faeces?*

A.: The toxic level of selenium by mouth for sheep is about 10 times that commonly used therapeutically. A large amount of the oral dose is excreted in urine and faeces within a few days.

Q.: *Was the increase in fleece weight independent of the improvement of thrift of the sheep and were there any differences in the character of the wool?*

A.: On most, but not all properties, the increase in fleece weight appeared to be directly related to the thrift of the animal. The wool from selenium-treated ewes was in all respects superior to that from the controls.

Q.: *Is there any significance in the lower faecal egg count of selenium-treated sheep?*

A.: I think not. This is probably just a reflection of the thrift of the animals in the two groups.

Q.: *Does selenium have any beneficial effects on cattle?*

A.: In some areas loss of condition and scouring in young cattle is responsive to selenium.

Q.: *What districts in New Zealand are likely to be deficient in selenium?*

A.: As yet we have no idea whether any of our pastures or soils are deficient in selenium. However, one would be more likely to get a response from selenium on pumice, sandy or stony soils.